

# Patients arriving at hospitals in off hours get slower, less care

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Patients hospitalized with heart attacks tend to get faster and more comprehensive care if they arrive during daytime hours, according to a report in *Circulation: Journal of the American Heart Association*. But, researchers said, variations in care don't seem to impact in-hospital death rates.

“Previous studies looking at how patients’ hospital arrival time for heart attack impacts medical care and outcomes have shown mixed results,” said Hani Jneid, M.D., lead author of the study and an interventional cardiology physician-in-training at the Massachusetts General Hospital in Boston.

To determine how hospital arrival time might impact heart attack patients’ care and outcomes, Jneid and colleagues examined data on 62,814 heart attack patients in the American Heart Association’s Get With The Guidelines–Coronary Artery Disease (GWTG-CAD) database.

“The Get With The Guidelines database is a powerful research tool,” Jneid said. “It is a contemporary national clinical registry, which includes a variety of hospitals, including teaching and non-teaching, rural and urban, from all regions of the United States.”

The researchers examined differences in medical care and in-hospital death among heart attack patients admitted during regular hours (7 a.m.-7 p.m. weekdays) versus off hours (7 p.m.-7 a.m. weeknights, weekends and holidays).

Of the patients studied, 54 percent arrived during off hours. After adjusting for baseline characteristics, patients arriving during off hours were 7 percent less likely to undergo primary percutaneous coronary intervention (PCI) and 6 percent less likely to undergo PCI or another type of revascularization called coronary artery bypass graft (CABG) compared with patients arriving during regular hours.

“Emergency angioplasty, or PCI, is the preferred procedure after an ST-segment elevation myocardial infarction, which is a heart attack caused by a completely blocked artery,” Jneid said.

“The goal of PCI is to open the artery as soon as possible and preferably within 90 minutes of the patient arriving at the emergency room.

“In our study, the average time from when the patient entered the hospital to when he or she received the procedure was 110 minutes during off hours compared with 85 minutes during regular hours.”

The researchers also found that arrival during off hours was associated with 66 percent lower odds of achieving the 90-minute window for primary angioplasty that the American College of Cardiology and American Heart Association recommend.

Despite the differences, however, the rate of in-hospital death was similar among patients arriving during off-hours (7.1 percent) versus regular hours (7.2 percent). These findings were similar in men and women and among all age subgroups.

“It is particularly interesting to note that the observed delays in primary PCI did not translate into measurable differences in in-hospital outcome,” Jneid said. “This seems to run counter to previous study findings. Future studies should not only strive to confirm or disprove these results, but also examine variables that might affect the interplay

of care and outcome with arrival time.

“This represents a vital opportunity for physicians to improve care, and is particularly important from a public health standpoint,” Jneid said.

“Our findings should compel healthcare providers and policy makers to work towards reducing the existing disparities in cardiac care with respect to arrival time, and improve healthcare delivery at all times through multifaceted initiatives aiming to improve the timely delivery of evidence-based therapies.”

Source: American Heart Association

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